

Scanhead Technical Specifications

Optimised objectives	High Resolution, smaller scan area - objectives with back aperture < 9 mm Larger scan area, lower Resolution - objectives with back aperture > 9 mm
Galvanometers	Cambridge Technology 6215H with 3mm X and Y mirrors which are separated with a 1:1 imaging relay
Max scan speed	1 ms/line; 2 fps @ 512 x 512 pixels; 15fsp @ 256 x 64 pixels.
Field of view	Approx 300µm squared with 40x objective
Scan control	Saw-tooth, bi-directional (ScanImage only), horizontal line scan, arbitrary 2D line scan (HelioScan only), Z-stacks
Scan Rotation	360 degree rotation
Zoom control	1 - >20x

Multiphoton Detection Unit Technical Specifications

Laser/Visible Dichroic Mirror	665nm long-pass dichroic, factory-fitted
Laser Blocking Filter	680nm short-pass filter, factory fitted
Objective max exit aperture	24 mm diameter
Angular Collection	+/- 5 degrees maximum from 20 mm objective, +/- 3.5 degrees from 24 mm objective
Objective compatibility	Water-dipping M32X0.75, M27X0.75, M25 X0.75 and RMS threaded types (direct or via adapters)
Spectral Filtration	One Olympus U-MF2 filter cube supplied (un-populated) compatible with standard fluorescence filter sets (25 mm filters and 24 X 36mm dichroic mirrors 1 mm thick.
Number of Channels	One or Two PMT-based detector modules containing integrated high-voltage supply, active voltage divider, pre-amplifier and low-pass filter / buffer.
Detector types	Hamamatsu R9880U-210, R9880U-01, R9880U-20
Electrical filtration	Second-order constant-delay (linear phase) low pass filter integrated into detector module. Nominal delay 495 ns.
Detector System Bandwidth	500 kHz corner frequency (See note)
Preamplifier gain	200,000 (see note)
Signal Range	0 to 2 V into 50 Ohms (output may vary from -3.5V to +3.5V).
Output connection	SMA (3.5 metre signal leads supplied)
Power requirements	+12V DC, 0.5 Amps (2.5 mm DC barrel connector, centre pin positive)

Power Supply	Low noise universal mains DC-in output
Note:	Preamplifier gains and bandwidths may vary from the nominal values if you have ordered a customised detector module.